

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
29 September 2005 (29.09.2005)

PCT

(10) International Publication Number  
**WO 2005/090600 A2**

(51) International Patent Classification<sup>7</sup>: **C12Q 1/68**

(21) International Application Number:  
PCT/IB2005/001030

(22) International Filing Date: 23 March 2005 (23.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/555,700 24 March 2004 (24.03.2004) US

(71) Applicant (for all designated States except US): **INTEGRAGEN** [FR/FR]; CCI Essonne - Pépinière Génopole Industries, 4, rue Pierre Fontaine, F-91000 Evry (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **PHILIPPI, Anne** [FR/FR]; 8 Résidence du Prieuré, F-77310 St. Fargeau Ponthierry (FR). **ROUSSEAU, Francis** [FR/FR]; 11, rue Théophile Gautier, F-91300 Savigny sur Orge (FR). **ROSCHMANN, Elke** [DE/FR]; 58, Quai Jacques Bourgoïn, F-91100 Corbeil Essonnes (FR).

(74) Agents: **GALLOIS, Valérie** et al.; Cabinet Becker & Associés, 25, rue Louis Le Grand, F-75002 Paris (FR).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declarations under Rule 4.17:**

- of inventorship (Rule 4.17(iv)) for US only
- of inventorship (Rule 4.17(iv)) for US only

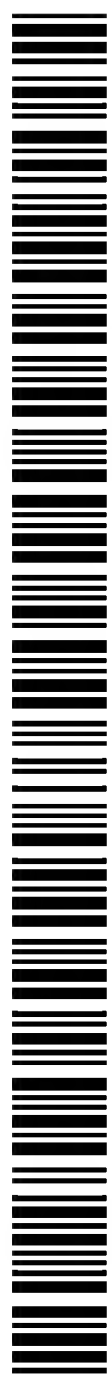
**Published:**

- without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HUMAN OBESITY SUSCEPTIBILITY GENES ENCODING PEPTIDE HORMONES AND USES THEREOF

(57) Abstract: The present invention discloses the identification of human obesity susceptibility genes, which can be used for the diagnosis and prevention of obesity and related disorders. The invention more specifically discloses that the PPY? PYY and GIP gene on chromosome 17 and certain alleles thereof are related to susceptibility to obesity. The present invention relates to particular mutations in the PPY, PYY and GIP gene and expression products, as well as to diagnostic tools and kits based on these mutations. The invention can be used in the diagnosis of predisposition to or protection from, detection, prevention and/or treatment of coronary heart disease and metabolic disorders, including but not limited to hypoalphalipoproteinemia, familial combined hyperlipidemia, insulin resistant syndrome X or multiple metabolic disorder, coronary artery disease, diabetes and associated complications and dyslipidemia.



**WO 2005/090600 A2**